METHOD AND RELATIVE QUANTUM GATE FOR RUNNING A GROVER'S OR A DEUTSCH-JOZSA'S QUANTUM ALGORITHM

Abstract of the Disclosure

A method of performing a Grover's or a Deutsch-Jozsa's quantum algorithm being input with a binary function defined on a space having a basis of

5   vectors of n of qubits includes carrying out a superposition operation over input vectors for generating components of linear superposition vectors referred to a second basis of vectors of $n+1$ qubits. An entanglement operation is performed over components

10   of the linear superposition vectors for generating components of numeric entanglement vectors. The method allows a non-negligible time savings because the entanglement operation does not multiply a superposition vector for an entanglement matrix, but

15   generates components of an entanglement vector simply by copying or inverting respective components of the superposition vector depending on values of the binary function. An interference operation is performed over components of the numeric entanglement vectors for

20   generating components of output vectors.